

Puget Sound HOV Lane Hours of Operation Evaluation

WSDOT Staff Recommendations Report to the Commission



November 14, 2002

Conclusions from the Evaluation

Peak Period

- HOV lanes are working well and improving freeway efficiency during the peak periods.
 - HOV lanes on I-5 and I-405 carry more people than adjacent general purpose lanes.
 - SR 167, I-90 and SR 520 carry less people, but use is growing.
 - All the lanes provide a travel time advantage for transit, vanpools and carpools.

Conclusions from the Evaluation

Nights (Seven Days)

- At night, the HOV lanes do not provide a travel time advantage.
- It is feasible to open the lanes at night without negative affects to transit or HOVs.
- Benefits: Lower traffic densities, more room to maneuver, and, depending on what time opened, congestion relief.
- Costs: \$2 million for the change plus \$4 million for needed roadside safety improvements, plus up to \$11 million for spot location safety improvements on I-5 required by FHWA.

Conclusions from the Evaluation

Weekend Days

- HOV lanes well used on weekend afternoons.
- When GP lanes are congested, HOV lanes get congested because of the large number of HOVs on the freeways – so travel time advantage diminished on weekends.
- Special event transit service is a concern, especially on I-5. Analysis is inconclusive, but this service probably has a travel time advantage until general purpose lanes become stop and go.
- Bottom line: It is feasible to open the lanes during weekends, but high use and potential impacts to special event service argue for caution.
- Benefits: No additional benefits
- Costs: No additional costs beyond those identified for nights

Conclusions from the Evaluation

Weekday Mid-day (9 a.m. to 3 p.m.)

- Conclusions vary by corridor.
- On I-5, HOV volumes are high during the mid-day - no congestion relief benefit so opening mid-day doesn't make much sense.
- On Eastside freeways (405, 167, I-90 east of 405 and 520 east of 405), mid-day HOV volumes are low – there is unused capacity in the HOV lanes.
- General purpose lanes on the Eastside freeways are congested mid-day – the potential exists for congestion relief if HOV lanes are opened, but...
- Any congestion relief benefit is short term – growth in traffic volumes will erode much of this benefit within 5 years.
- The question is, how to use this underutilized capacity to improve freeway throughput.

Weekday Mid-day (9 a.m. to 3 p.m.)

■ Options

- Keep the HOV lanes: while growth of HOV is higher than GP, underused capacity will still exist for years. Reinforces “empty lane”
- Open the HOV lanes: general purpose growth and shifting traffic will largely swamp this additional capacity within 5 years.
- Other approaches: HOT Lanes – allowing other users to buy in to HOV lanes can maximize throughput while keeping the lanes moving.

WSDOT Staff Recommendations to the Commission

1. Keep I-5 HOV lanes as HOV lanes 24/7

- Higher mid-day use minimizes congestion relief potential.
- Safety issues with narrow shoulders and spot concerns at Northgate and Southcenter require higher investment.
- Special event transit service is mostly an I-5 issue.

Recommendations

2. Open the HOV lanes on Eastside Freeways (I-405, SR 167, I-90 east of I-405, and SR 520 east of I-405) at night from 7:00 p.m. to 5:00 a.m. seven days a week

- These can be opened while maintaining safety without undue expense (total cost to make this change is up to \$3.5 million which includes signage and needed safety improvements).
- 7:00 p.m. opening time provides some congestion relief benefits by dispersing the end-of-peak general purpose lane backups.

Recommendations

3. Retain HOV restriction on weekend days on all freeways.



- HOV lanes are heavily used on weekend afternoons – this reinforces the HOV incentive

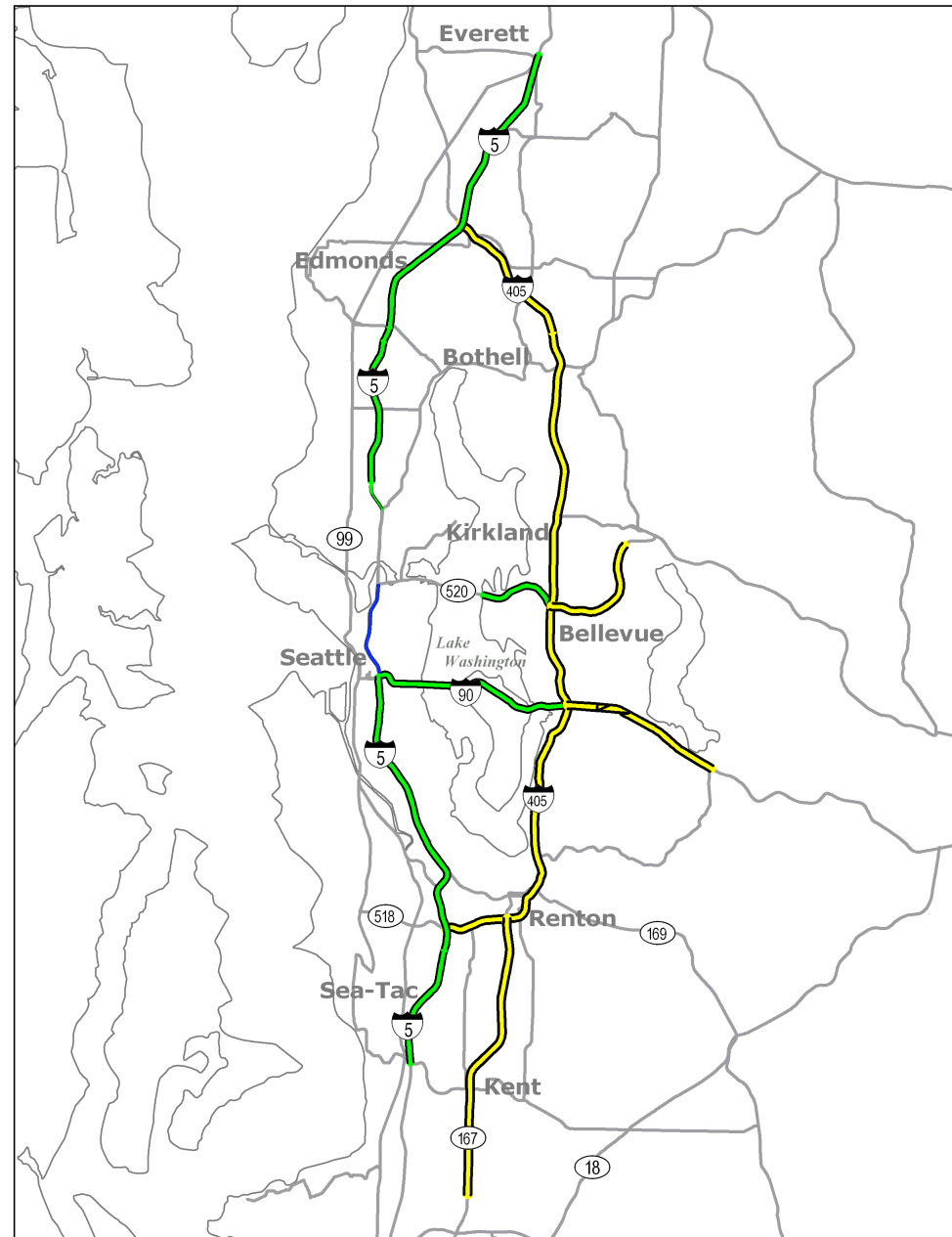
Recommendations

4. Pursue a HOT lane/managed lane strategy on I-405 and SR 167 to improve freeway throughput. Manage the underused capacity for long-term mobility benefits.

- WSDOT should develop a long term managed lane strategy to manage the existing roadway space more efficiently
- WSDOT should immediately pursue federal value pricing grant funding to develop and further the implementation of a managed HOT Lane system.

Puget Sound Region Core Freeway HOV System

-  HOV Lane Segments restricted to HOVs 24/7
-  HOV Lane Segments proposed for opening 7PM to 5AM every day



Next Steps

- Commission initial comment period on staff recommendation: November 14 – January 3
- Public Comment at December Commission meeting
- Presentations to interested groups
- Data and recommendations on website

For more information:

<http://www.wsdot.wa.gov/hov/pugetsoundeval>